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(6) THE YEAR 2000 AND THE US ARMY.

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(10) COL Joseph L. Sites, Chairman
Mr. John F. Scott
Mr. Charles W. Taylor

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ABSTRACT

This paper lists and discusses the conditions existing in the year 2000 which will have the greatest impact on the US Army. The paper is based on work done by the Futures Group and information received from outside agencies. This represents the first attempt to specifically identify and list those future conditions which will have the greatest impact on the Army and it is intended that this paper will be reviewed and refined periodically.

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FOREWORD

This paper presents the views of the Strategic Studies Institute's Futures Group concerning the conditions in the year 2000 which will have the greatest impact on the Army. The paper provides the assumptions on which the predictions are based, describes the methodology used, discusses each condition separately, and states specific implications.

This paper was prepared as a contribution to the field of national security research and study. As such, it does not reflect the official view of the US Army War College, the Department of the Army, or the Department of Defense.


ANDREW C. REMSON, JR.
Colonel, CE
Director, Strategic Studies Institute

THE YEAR 2000 AND THE US ARMY

The purpose of this paper is to identify conditions present in the beginning of the 21st century which will have the greatest implications for the US Army. The ideas presented represent the best estimate of the members of the Futures Group and a number of staff and faculty members of the US Army War College, both within and outside of SSI. The Futures Group, since its inception in 1979, has concentrated its efforts on reviewing futurist literature and identifying those trends, events and conditions which have long range implications for the Army. This paper is, therefore, based on those reviews; on Futures Group papers already written or in progress; on information gained from contact with others doing futurist work; and, in particular, on presentations made at the First Global Conference of the Future in Toronto, Canada, 20-26 July 1980.

ASSUMPTIONS

The exact conditions which will exist in 2000 cannot be determined by any known analytical method. Any forecast which states firmly that a given condition will exist immediately becomes suspect. A forecast, however, which uses as a basis today's condition, identifies a trend and then (without considering changing forces) predicts a future condition (whether this condition comes to pass or not) is useful in that it either highlights possible problems and provides a purpose for change or it highlights correct activity which can be used as an instructive guide. The conditions existing in 2000 identified in this paper are based on current knowledge and trends.

Current knowledge can be an accumulation of data which is only approximate.¹ As for trends, there is a great variance. Natural trends of an event such as growth can be logarithmic; depletion of materials, logarithmic or straight-line extension; and social change apparently sinusoidal with varying cyclical periods. All trends, however, are subject to discontinuities.

Further, an exact forecast is not possible because it neither is possible to forecast surprises nor technological breakthroughs. Their definition alone excludes a forecast of their occurrence.

Only with these limitations in mind should one consider the following predicted conditions.

LIST OF CONDITIONS

The Futures Group believes the following conditions will have the greatest impact for the US Army in the beginning of the 21st century:

- o Soviet Military Force
- o US and World Political Climate
- o US and World Economic Condition
- o US Foreign Relations
- o Resources
- o Energy
- o Technology
- o Population
- o Life Styles
- o Conflicts

1. An example of questionable data arises even in the preparation of the highly respected annual report of the World Bank. The Bank depends on submission of data from individual member nations. A responsible World Bank officer informed this author that some data submitted was probably altered for national interests, and some was probably only estimated, but it in the final analysis was the best available.

Each of these conditions and their implications will be discussed separately in the following sections.

Soviet Military Force

Among the 5000 plus delegates to the First Global Conference on the Future, (despite many predictions of gloom and doom) there was a general sense of optimism for the continuation of mankind. Several speakers expressed this feeling but stated that this continuation depended on avoidance of nuclear war between the United States and the Soviet Union. Accepting this premise, it follows that above all else the US Army must be organized, trained, equipped, deployed, and perhaps employed and supported so that it can do its part in deterring or limiting actions which could lead to all-out nuclear war.

The Soviet Military Forces have been growing at a significant rate. They are presently highly capable, and every measurable trend indicates that by the year 2000 they will be an even more formidable force. To prohibit this Soviet Force from intimidating the rest of the world through blackmail, walking rough-shod over other nations, or, through miscalculation, leading this small planet into a self-destructive nuclear war, the US military capability must be improved.

We must recognize that our improved capability goal is not to mirror the Soviet Forces, i.e., same number of tanks, infantry, howitzers, etc. Rather we must concentrate our efforts in those areas where we have or could have a demonstrated superiority. Some of these areas are electronic weapons, advanced command communications, advanced or different transportation systems, and a truly integrated use of allied military forces and the development of a strategy for the future.

US and World Political Climate

The main ingredient of a stable political climate is the ability of governments to govern. There is strong evidence today that events are occurring so rapidly that governments, both Communist and non-Communist, are not keeping up. Institutions in general are faced with members whose ideas, goals, and desires are rapidly changing. The relativity of many institutions is being questioned; examples are: political parties in the United States, issues concerning birth control in the Roman Catholic Church, state labor unions in Poland.

More and more, governments are forced to decide on unpopular issues for which there are no completely satisfactory answers. Federal standards to insure safety of a product increase its cost and may well force a particular industry out of foreign competition.

As shortages of energy and resources increase in the future, governmental efforts to alleviate resulting problems will create dissension and the governments themselves will be blamed for the shortages. As evidence of the present difficulty in governing we find, even in this election year, political officials complain how little they can do, how little authority they have and how the work of the government is predetermined.

There appears to be no change in these trends. In the year 2000 we can expect a great deal of popular discontent with institutions and government. The implications for the US Army fall into three general categories: discontent outside of the United States will increase the likelihood of employment of military force; discontent within the United States could mean that the Army may be called on to supplement the traditional and constitutional law and

order forces; and, discontent with institutions will mean that there will be difficulty in obtaining the public support required to maintain a representative military force.

US and World Economic Condition

By the year 2000 the disparity between the rich and poor will be greater. The demands for a New International Economic Order may have been supplemented by threats to or commission of hostile acts, or withholding of some commodity which we vitally need. The people of Nigeria, for example, are still poor. In an effort to improve the nation's condition the Nigerian government could withhold oil unless some of their demands are met. Some poor countries could engage in terrorism for pay. (As an example of this trend we have only to turn to Sardinia.) Already, it is only the courageous or foolish rich person who visits Sardinia for pleasure.

The disparity between the rich and the poor, however, will only be one facet of the world economic condition in the beginning of the 21st century. As resources diminish, conversion of energy systems takes place, and world population increases, everything will cost more in terms of human effort. Countries like Turkey with great economic difficulties will face even greater problems in the next 20 years.

Within the United States there has been an increasing demand on the government to provide more and more social services. These range from recreation, health, and care of the aged, to underwriting solutions to social problems such as bussing. The military will be in direct budgetary competition with these programs whose proponents far outnumber military advocates. The military may find it to its advantage to actively participate in some of these

programs in peacetime and should examine ways in which it could participate in such programs. A few of the areas which could be examined are summer camps, construction, medical care, and adventure training. If the participation were to take place the military could possibly receive additional funds, gain esteem among the populace and actively train for war.

The United States will be paying more for what it has. Either it will come up with more, which is not the current trend, or it will get by on less. Getting by on less seems to be the economic picture for the future. If this trend continues the US Army will join the ranks of those getting by on less and, therefore, must seriously plan how to obtain its highest priority needs.

US Foreign Relations

The status of US relations with other nations has the most direct bearing on the military. When relations become hostile, the military can expect to be employed. Barring hostilities, the implications of US foreign relations on the military can be put into two simple categories. They are the implications resulting from our relations with enemies or potential enemies and our relations with friends or potential friends. Despite our efforts and those of our allies at detente, there appears no trend which would result in an improvement in the relationship between the United States and the Soviet Union. This prediction is felt so strongly that the first condition discussed in this paper, "Soviet Military Force," is judged to be the condition with the most important and direct impact on the US military. US relations with other Warsaw Pact nations will probably change very little in the next 20 years. The Soviet Union's interest in maintaining the stability of the

Warsaw Pact will continue. The Soviet Union will continue to have the military force required to maintain its influence and will have the will to use it. The US capability or desire to change internal Warsaw Pact relationships is limited and the desires of the junior members of the Warsaw Pact will count for little in the real world.

US relations with Allies and potential allies are more difficult to predict. Whether NATO will exist in 2000 is an unanswerable question. New leadership in Germany (leaders who have matured after World War II), who may see holes in the US nuclear umbrella, who may have developed insecure feelings about US reliability, and who are faced with politically difficult domestic events may decide to turn to Europe or to itself for securing its national borders. It cannot be denied that as an ally of the United States, Germany will become involved in superpower struggles which occur outside of Europe. If Germany decides that the risk to its national security is less than the risk of becoming involved in such outside struggles, than NATO's condition is terminal. Italy is on the verge of having Communist members in its cabinet; by the year 2000 it could have a Communist government. The condition of Turkey offers little hope for the future. The popular attitudes in Scandinavia and the Netherlands do not support a stronger NATO in the future or even the continuation at the present level.

Although there is a question about the existence of NATO in 2000, there is no question that the United States needs to maintain influence in Western Europe and its influence has depended heavily on US military presence in the past. The big question is: Can the military continue to provide a basis for US influence in Europe if it is not physically present there? Protection of

US interests worldwide may require a drawdown of US military force in Europe.

Keeping this in mind, the relationships with potential friends and potential enemies may become even more critical than relationships with Allies. The respected futurist magazine "Next" recently published an article which depicted that the most likely outbreak of nuclear war will occur within this group of nations. It is also in this group that the seeds of discontent resulting from overpopulation, poverty, hunger, lack of energy, lack of resources, and individual oppression will find the most fertile ground. At the same time, enemies of the United States can take advantage of the conditions in these countries to strike out at our national interests.

To lessen the likelihood of conflict arising in the Third World, the military may be called upon or it may be appropriate for the military to seek an active role in administering aid programs. In contrast with past efforts, the United States should consider the possibility of concentrating its aid efforts on a selected group of nations whose well-being and friendship would serve our national interests, in particular security.

Some of the great questions for the military arising from US relations with China need to be mentioned. Will the United States continue to see China as a partial balance to Soviet power? Or perhaps more important, will China see the United States as contributing to its balance against the Soviet Union? Can the United States make a significant contribution to increasing China's military capability without creating an uncontrolled force which could turn against us?

The unpredictable state of US foreign relations in 2000 indicate that the US military should provide, as previously stated, deterrence to use of force

by the Soviet Union. In addition, the military should provide the United States some influence in Europe, be capable of conducting actions in Third World countries and consider its role in supporting aid projects.

Resources

"For want of cobalt, chrome, uranium, and industrial diamonds, the productivity centers of the United States, Japan and the Common Market were unable to stave off massive unemployment in their own societies or match the formidable military challenge of the U.S.S.R. which, through its Navy and geopolitical finesse, gradually closed off access to critical materials of its adversaries."²

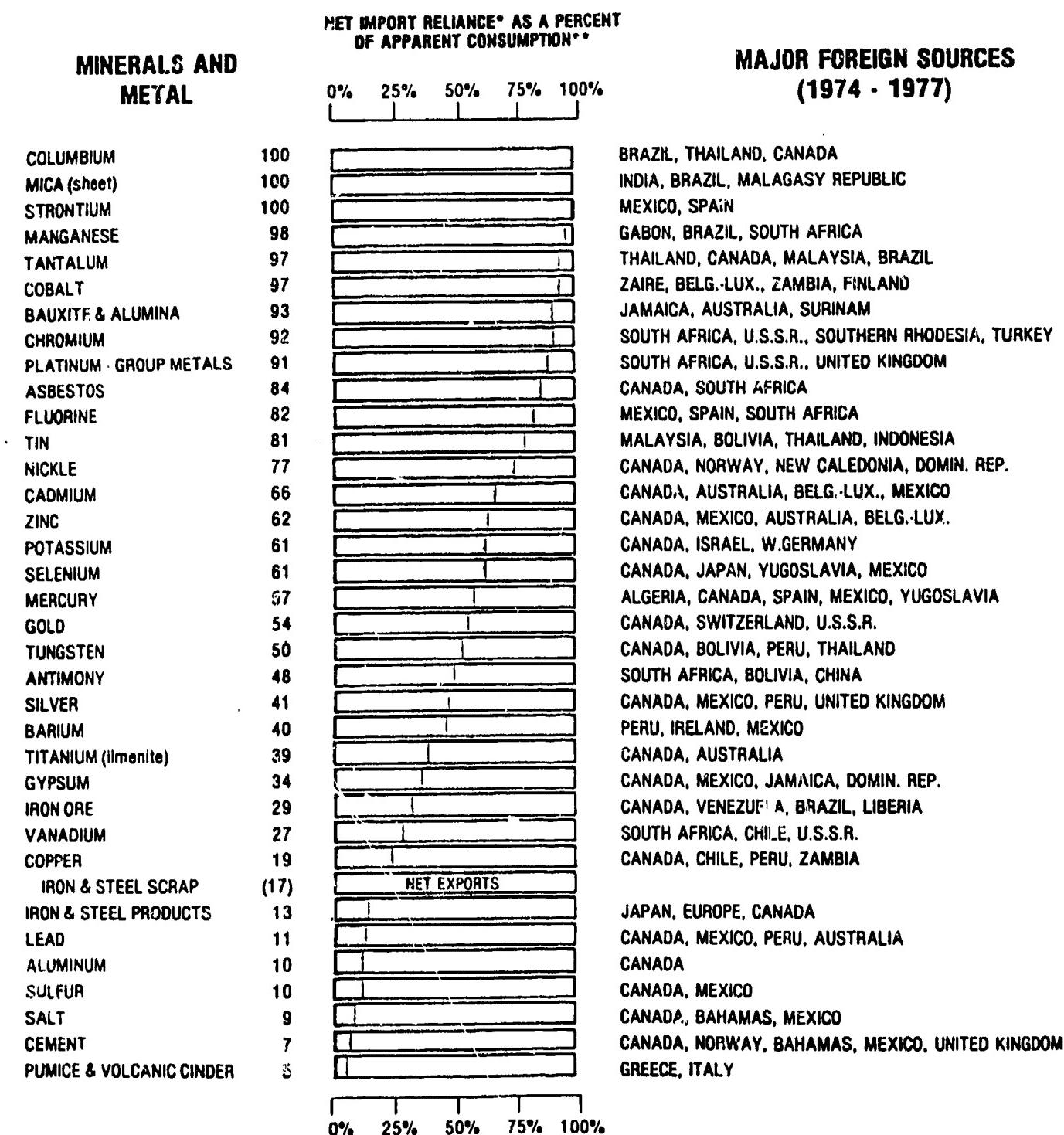
This bleak statement of the future by Frank R. Barnett has been echoed by many others. The current US reliance on imports of critically important minerals is depicted in Figure 1. There are no apparent trends or developments which indicate that the condition will be better in the year 2000. At the same time, there is evidence that the leaders of the Soviet Union fully appreciate our vulnerability. "From Moscow's viewpoint, a resource war is low-cost, low casualty, low visibility and usually below the threshold of effective response by the North Atlantic Treaty Organization."³

If the leadership of the United States begins to take measures to secure into the future these needed resources, then the military will have a role. The activity of this role will vary in relation to the difficulty in maintaining our sources. If the United States does not develop and execute a policy to

2. Frank R. Barnett, "Preface," in Yuan-li Wu, Raw Material Supply in a Multipolar World. (Second Edition. New York: Crane Russak--National Strategy Information Center), 1979.

3. A White Paper. The "Resource War" and the U.S. Business Community: The Case For a Council on Economics and National Security. Council on Economics and National Security, 1980, p. 6.

U.S. NET IMPORT RELIANCE OF SELECTED MINERALS AND METALS AS A PERCENT OF CONSUMPTION IN 1978



*NET IMPORT RELIANCE = IMPORTS EXPORTS
+ ADJUSTMENTS FOR GOVT AND INDUSTRY STOCK CHANGES

Figure 1

**APPARENT CONSUMPTION = U.S. PRIMARY
+ SECONDARY PRODUCTION + NET IMPORT
RELIANCE

SOURCE: U.S. Bureau of Mines

insure our access to these resources, then Mr. Barnett's mental picture may become a very accurate representation and by 2000 an inferior US Army will be charged with defending a very weak nation.

Nonfuel minerals are not our only source of resource concern. Food will cost more in 2000 and will be a source of international discontent. Insufficient water supplies will present problems. In large farming areas in the United States, irrigation will not be the answer as it is today. Depletion of natural resources such as forests and conversion of farmland to nonagricultural purposes add another dimension.

The water problem, a traditional Army Engineer function, will be of immediate interest to the Army. The other problems all contribute to general unrest, which in the long term will have an impact on the Army.

Energy

The Global 2000 Report to the President listed energy under resources. The special importance of energy to the military was considered to be so great that for this paper it is considered separately.

It is generally agreed that known world reserves of conventional oil and gas, which currently supply around 75 percent of US energy requirements, will be effectively exhausted fairly early in the 21st century.

Principal energy sources for the future, other than oil and gas, are coal (amounting to 90 percent of US fossil fuel resources), oil shale, nuclear (conventional and breeder reactors), nuclear fusion, solar energy and geothermal sources. Of all these potential sources of future energy, only coal, oil shale, and conventional nuclear power, with limited specialized contributions of solar and in some areas geothermal sources are expected to provide any appreciable additional energy by 1990.

Although the US domestic coal supply is sufficient to last for hundreds of years, modification of coal combustion technology is required to meet current air pollution standards. Coal production and use is increasing slowly, but coal's ability to make up the shortfall in other fuels is hampered by safety and environmental constraints, as well as the high capital costs of converting power and other industrial plants from oil or gas. The most important contribution of coal to our energy requirement is expected after 1990 when coal gasification and liquefaction processes have been developed commercially. The estimated potential available from coal gasification is around 1800 trillion cubic feet of gas--US consumption is now about 25 trillion cubic feet of natural gas per year.

There appears to be no reasonable probability that the United States can increase its energy self-sufficiency by 1990. The most reasonable forecasts indicate that the nation is likely to do no better than hold its present position, even with increased emphasis on conservation and accelerated development of additional domestic resources. The situation in the other industrialized nations appears no more optimistic.

It is clear that development of indigenous alternatives, substitution, conservation, and reduced oil demand will not soon eliminate dependence on imported energy resources, particularly for Europe and Japan. The energy mix may change somewhat, but it is clear that dependence on imported oil will be a fact of life for the industrialized states well beyond 1990.

The implications for the Army are awesome. In an emergency allocation program the military priority will be high, but so will be the needs of generating plants, critical transportation and communications facilities. There will not be enough petroleum to go around and even those with high

priorities will be short. This will be a new situation for the Army. Past shortages could have been corrected through improvements in the logistics system. Future shortages will be compensated for through reduction in mobility or conversion of equipment to new fuels.

If the vital interests of the United States are threatened by fuel shortages, then the military could expect to be called upon to protect those interests. This would require securing sources, insuring operation of production facilities and securing transit routes.

Technology

Alvin Toffler in The Third Wave and similarly John Naisbitt in addressing The Foresight Group, Stockholm, Sweden, on April 17, 1980, predict a future United States which is almost dominated by technology, in particular that relating to data processing and electronics. They see a shift from a mass industrial society to an informational society and a decentralization taking place. In brief, they see a society in which the individual and lower echelons of institution have more information and make more decisions. The great strength of the US Army in the past has been based on the great industrial base of the United States. Its weapons and means of moving them were products of that base. If the United States is shifting to a new societal base, can the Army adjust? Will the base provide the weapons needed?

The following excerpt from the Futures Group Periodic Report 1 provides an insight on the US technological position in 2000 relative to other countries.⁴

" . . . the scientists and inventors whose contributions will make an impact . . . have already been born and are probably well on the road to completing their education. Future technology will result from their training, individual abilities, and the research and development funds made available to them. The United States has long enjoyed a world superiority in technology, and our scientists are fortunate in having this

4. Periodic Report 1, pp. 3-4, Futures Group, SSI, Carlisle Barracks, 30 November 1979.

base from which to build. However, other nations have been increasing their base at a fast rate and we can expect American technological superiority to be challenged in more and more areas.

The following statistics were provided in a Washington Post article concerning the US domination of Nobel prizes. The US percentage of GNP spent on research is now running at 2 percent; in 1968 it was more than 3 percent. The Germans, French, Russians, and Japanese are now ahead of us. 'The percentage of scientists and engineers in research and development work has fallen in the last ten years. Industry's investment in fundamental research as a fraction of sales is down 32 percent.'⁵ More significantly, enrollments in science and engineering graduate schools in the United States have declined in the last 10 years. At the same time, there has been a percentage increase in foreign science and engineering graduate students in the United States.⁶ The implication for the Army is that a significant technical superiority over a potential enemy may be lost unless we take steps to prevent it."

In considering technology the Army must look introspectively at its ability to use advanced technology and its past performance in this area. For over 20 years there has been the technological capability to have a howitzer that could be electronically laid (directed), fuzes automatically set, rounds automatically rammed, muzzle velocity (for future corrections) electronically measured and firing data electronically computed from an electronic sensing. The actual condition is that there are many artillery commanders taking great pride in the fact that they never fire their howitzers using only the FADAC (a very old computer which is dependent on mobile generators usually in short supply). These commanders insist on checking the FADAC by manual means or they check the manual using the FADAC. One could imagine the confusion resulting from the introduction of modern artillery systems which we should have.

This example may be myopic but it probably is not and should indicate the work necessary for the Army to adjust to the type of technological future

5. Thomas O'Toole, "U.S., Domination of Nobel Prizes Seen Ending," The Washington Post, October 29, 1979, p. A6.

6. Ibid.

most commonly forecast and use it to the Army's greatest advantage.

Population

Current US Census Bureau data indicates that the population in the United States is increasing in absolute numbers. However, the rate of increase is declining as the United States approaches zero population growth. Today, there is an average of 1.8 children per woman. This is below the 2.1 required for natural population replacement. Improved health, working conditions and other factors are increasing life expectancy. The combination of longer life and fewer births creates a different pattern of population distribution. Today's median age is 30. The Census Bureau estimates that in 1995 it will be 34 and in 2000, 36.

The implications of this data are that the military will have a smaller group from which to draw its personnel. In order to obtain the numbers it needs and retain them, the Army may have to consider using older personnel and to greatly modify benefits and personnel policy. For example, to provide a sense of belonging and permanence, a home regimental system may be a very militarily desirable and inexpensive answer. There are many areas which could be studied and the problems of manning the forces will be sufficient to warrant the effort.

While the Western World population will remain about the same, in 2000 the Third World population will almost explode. Global 2000 estimates Latin American population increases from 325 to 637 million and Africa from 399 million to 814 million. This population increase will strain resources and can only produce great difficulties for the entire world. Confronted with these problems, the Army may become involved in actions to help resolve conflicts or in security roles such as handling refugees.

Life-Styles

Many of the conditions already discussed play integral parts in the life-styles of the year 2000 but the overall effect of changed life-styles will have an independent impact on the military.

The US Census Bureau data and other sources indicate the following significant trends:

- More women, single or married, are entering the American work force than ever before.
- More men and women are remaining single (never married).
- The ratio of divorced to married people is continuing to increase.
- An increasing number of men and women are choosing a non-marriage, family household.
- An increasing number of youth are disassociating themselves from traditional life-styles and are searching for a more unconstrained way of life.

The general picture derived from these trends is a society less based on family and marriage. The training in the formative years will be very different from that received by present and past generations. The concept of a father figure, which often was transferred to army leader, the sense of family which transferred to unit, discipline within a family on which military discipline was based may become so changed that the Army will have to examine its whole concept of command and leadership.

Conflicts

This paper has carefully stated that surprises cannot be predicted. However, to state that conflicts between now and 2000 will have serious implications for the Army is not the prediction of surprise. There has not been a period of

20 years without conflict and there is no apparent reason why there should not be conflict in the next 20. Each conflict which has occurred in the past in which the United States has participated has had a profound impact on the military. We have attempted to incorporate all the lessons learned to such an extent that perhaps we have prepared for past wars instead of those to be fought. From the conflicts being fought today and from those in the future, we can learn needed lessons. In what were once almost demilitarized areas of the world, we see great amounts of armament and we should realize that the numbers of areas in which an airborne brigade alone can exercise great influence have greatly decreased in number. In many areas we see the respect for the United States greatly diminished and the question of support for the United States becomes real. In far too many areas we see the spread of Soviet influence and we have seen their equipment, training and tactics in combat. These observations of events today and in the future must be made, and lessons learned from them will have serious implications for the US Army in its every endeavor.

CONCLUSIONS

The preceding discussion of the Futures Group list of conditions in the year 2000 which will have the greatest impact on the Army did not consider active programs to correct the predicted problems. It may be that surprise events or technological breakthroughs may solve or alleviate some of them, however, the institution of long range programs to correct future problems does not have a brilliant history. Perhaps with more attention paid to the future, such as that brought about by the President's report, The Brandt Commission Report, and the World Bank's Annual Report more constructive

planning, programing and acting for the future will take place. The safe-side course of action remaining for the Army, however, is to assume that the future will be no better than that determined from present conditions and identifiable trends. The Army, then, should commence adjusting its plans to accommodate the changes expected.

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